

The Citrus Industry

Vol. 24 — No. 12

DECEMBER, 1943

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AT LAST, BY-THE-POUND

Paradoxical as it may seem, recent action by the OPA and Stabilization Director Vinson, seems to assure higher prices for the citrus grower and lower cost to the consumer. This highly gratifying situation, to everyone except the "middleman" has been achieved by cutting down on the profits of the "middleman," and even he should not consider the action as an unmixed evil, since his volume of business will doubtless be increased once the consumer comes to know that he is getting full value for his money.

By placing the sale of citrus fruits on a per-pound basis and placing ceiling prices on retail transactions which is expected to lower the cost to the consumer from 10 to 15 percent, the consumer benefits. At the same time on-the-tree price to the grower is increased from 6 to 15 percent over last year's prices.

For a number of years many Florida growers and shippers have advocated a per-pound basis for the sale of citrus fruit in place of the long-established custom of basing such sales on the per dozen plane. Heretofore the consumer bought his oranges or grapefruit by the dozen. If they were luscious and full of juice, the consumer was in luck; if they were dry and pithy and lacking in juice, that was his hard luck. Under the by-the-pound system, he may be sure of getting full value for his money.

Full credit, of course, should be given the OPA and Stabilizer Vinson, but even greater credit is due to W. J. Steed, Washington representative of the Florida Citrus Commission; Murl E. Pace, General Manager of the United Growers and Shippers Association, who has devoted time, energy and money in promoting the new system; to Prof. E. F. DeBusk, of the University of Florida, who made the survey on which the factual possibilities of the by-the-pound selling were based, and to Dr. Wayne Reitz, the South's leading agricultural economist. These men were the prime movers in the campaign which has been carried on for several years. They enlisted the aid of leading growers and shippers and labored tirelessly with the Washington officials to bring about the action recently announced.

Growers should benefit materially by the ceil-

ing prices established. They should benefit also by the increased sales induced by lower retail prices and the assurance that consumers are getting what they pay for — not "buying a pig in a poke." Then, too, the new system should result in a simplification of price regulations and should go far to check black market operations from which the industry suffered during the past season.

Citrus factors in Florida are highly gratified at the action of the OPA and Stabilizer Vinson and are generally agreed that both growers and shippers, not to mention the ultimate consumer, stand to profit largely by such action.

WAGE SCALE ESTABLISHED

Acting on applications filed by the Florida Citrus Commission, Florida Cannery Association, Citrus Processors Association and the United Growers and Shippers Association, the War Labor Board has established a schedule of prices to apply to all packing, canning and processing plants in the state, but do not apply to pickers or employees of growers.

The price schedule affects 286 packing, canning and processing plants in the state, employing approximately 22,000 workers. Under the schedule as announced, common labor will receive from 40 to 50 cents per hour; semi-skilled labor 40 to 60; skilled 60 to 70; clerical 60 to 75, superintendents, engineers and foremen 70 to 80 cents per hour. Piece rates may not exceed the equivalent of 67 cents per hour.

Such plants in Florida last season experienced much labor difficulty which the wage schedule, established by the voluntary action of the plants concerned, is expected to smooth out.

HEAVY CITRUS SHIPMENTS

Although the shipping season opened later this season than a year ago, shipments up to the present time have far exceeded the movement up to the same time last season. Only tangerines have fallen below the mark established a year ago.

Prices generally have been satisfactory and the fruit mostly of good quality.

Reports from the headquarters of the State Inspection Bureau at Winter Haven indicate that heavy shipments may be expected to go forward at least until after the Christmas holidays.



For half a century IDEAL FERTILIZERS have enjoyed the privilege and honor of working with Florida growers to produce more and better citrus fruits and vegetables. And during this half-century the agriculturists of Florida have been kind enough to credit us with outstanding service and leadership.

This is a distinction of which we are extremely and, we believe, justly proud. The mere fact that we have been in business for 50 years is evidence that we have manufactured an excellent product.

Further, our constant growth and the accolade of leadership bestowed on us by our customers bespeaks not only a good product but also a spirit of conscientious service devoted to helping you solve your problems through scientific advice, counsel and guidance.

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"Citrus Fruit Production Under Wartime Conditions" is a useful new treatise by Bayard F. Floyd and R. L. Miller. You'll find it valuable. Write for it!

When the IDEAL Brand was first presented to Florida growers, we were pledged to the ideal of highest quality and service. We have never wavered from this objective. IDEAL Brands have kept pace with every advance in agricultural knowledge.

Today, as during the last half century, we are still pledged to this ideal. You can rely on IDEAL Fertilizers, using them with full confidence that they represent the best that experience and scientific knowledge can provide.

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To you who have long been our customers—some for the full half century we have been in existence—we express gratitude for your loyalty. We have tried to serve you well.



COMBINE your IDEAL Fertilizer program with highly effective FASCO insecticides and sprays.

THE FUTURE?

Let Us Face It UNAFRAID!



FOR three hundred years our forefathers faced the future with courage and stout hearts, with fortitude and the wisdom born of trying times. They bequeathed us the ways, means and ability to accomplish the impossible during the past two years.

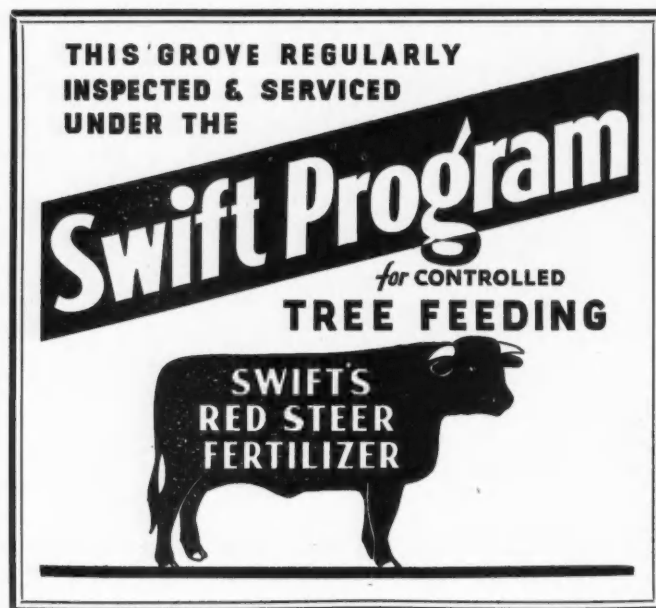
Throughout our history there has always been a very vocal minority crying aloud that America has already passed her zenith, only to have ever greater achievements repudiate their dire prophecies.

How dark were the days of Valley Forge . . . and how wonderful the years which followed! To have less faith and fortitude and wisdom than did our forefathers is to spiritually desert our children and their children's children in these trying times.

We believe that the American people of today will fully measure up to the heritage our forefathers bequeathed us. Our belief in the American people is so strong that we are now making plans for the investment of substantial sums of private capital to provide ever-increasing opportunities for gainful employment in the development of those great natural resources of Florida—fertile soil, adequate rainfall and plenteous sunshine.



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The groves on which the sign shown above appear are also noteworthy producers—a fact evidenced by the wording on the sign. We suggest that you read it carefully and observe the character of the groves on which it appears.

Swift & Company Fertilizer Works

A Division of Swift & Company

BARTOW, FLORIDA



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A Comparison Of Some Copper Fungicides In Controlling Citrus Melanose

The results of research on citrus during the last decade have practically eliminated any question as to the fungicidal and nutritional value of copper on this crop. For many years a standard bordeaux mixture, 6-6-100, or this mixture in combination with oil emulsion was used extensively for the control of citrus melanose, but later this mixture was reduced to a half-strength or 3-3-100 concentration. However, since even the weaker dosage possessed certain disadvantages, it was desirable to find a substitute for bordeaux mixture. Therefore, a number of proprietary copper spray materials of the so-called "insoluble" type began to appear on the market after 1932. A number of these materials were compared with bordeaux mixture between 1932 and 1938 by Ruehle and Kuntz (1), who showed that several of the proprietary materials could be substituted for bordeaux mixture in the spray schedule with nearly equal control of melanose. The result of this work led to the general recommendation of a 3-3-100 bordeaux mixture or its fungicidal equivalent in some form of proprietary copper for the control of melanose. Since then an even greater number of proprietary materials have been developed, and the relative fungicidal values of many of them for melanose control are substantiated by experimental evidence presented in this

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report.

The experimental tests with some of the more recent proprietary copper spray materials were conducted in commercial bearing groves at Vero Beach, Bradenton, and Lake Alfred in one block in the groves of the Citrus Experiment Station. There were necessarily some differences in the size and age of the trees in certain groves as compared with others, but the trees in all of the groves were large enough and

usually harbored sufficient deadwood to anticipate a heavy melanose infection under favorable weather conditions. The test plots in the individual groves were of nearly equal size but were varied in size in different groves according to their expectancy of bearing. In each case they were made sufficiently large so that an average of the total fruit production (usually 1,000) could be readily and conveniently examined from each treatment, provided an average crop would be produced. In spite of the fact that all of the tests were conducted from an experimental standpoint, there were necessarily certain uncontrollable

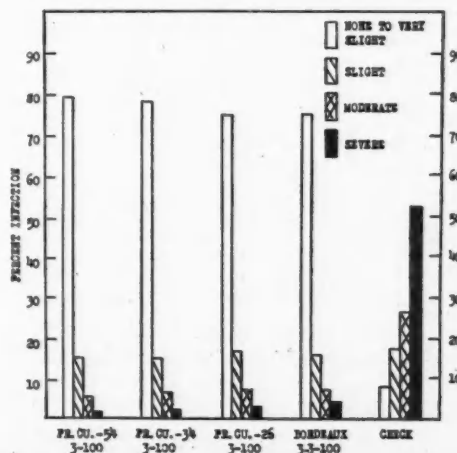


Fig. 1. Comparison of bordeaux mixture with other copper sprays for the control of melanose in three grapefruit groves in 1939 and 1940.

variables that entered in.

The method employed in securing the comparative records of control is fundamentally the same as that described by Ruehle and Kuntz (1), and for this reason the details will

lesions per square inch). This arbitrary classification of infection is not entirely comparable to the different packing house grades, but for all practical purposes all the fruit shown in the first class and part

proprietary copper materials were compared with 3-3-100 bordeaux mixture. Although bordeaux mixture has certain disadvantages and has been substituted to a considerable extent in recent years with the

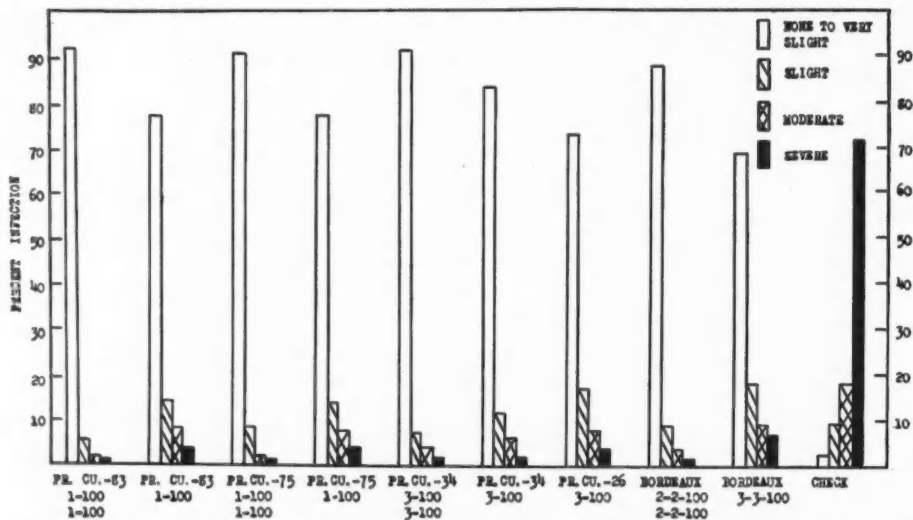


Fig. 2. Comparison of one and two applications of bordeaux mixture and other copper sprays for the control of melanose in two grapefruit groves in 1940.

not be repeated at this time. In brief, the melanose lesion counts were made at random on 1,000 fruits from each treatment, including fruits from every tree in the plots. The fruits were then grouped into 4 classes of infection as follows: None to very slight (0 to 10 lesions per square inch); slight (11 to 25 lesions per square inch); moderate (25 to 50 lesions per square inch); and severe (more than 50

of that in the second class can be considered as first-grade fruit; and part of the fruit shown in the third class and all of that in the fourth class can be considered as third-grade fruit as far as melanose blemish is concerned. All of the fruit shown in class 1 and 2 and part of that in class 3 would be included in the commercial combination grade now extensively used.

In all of the tests conducted the

proprietary materials, it is still used as a standard of comparison with other materials. In order to consider some of the materials in more detail, only the more important materials tested during the past four years are considered in this report. There are many fungicidal and nutritional mixtures on the market today containing some form of copper and wettable sulfur and either one or both zinc and manganese.

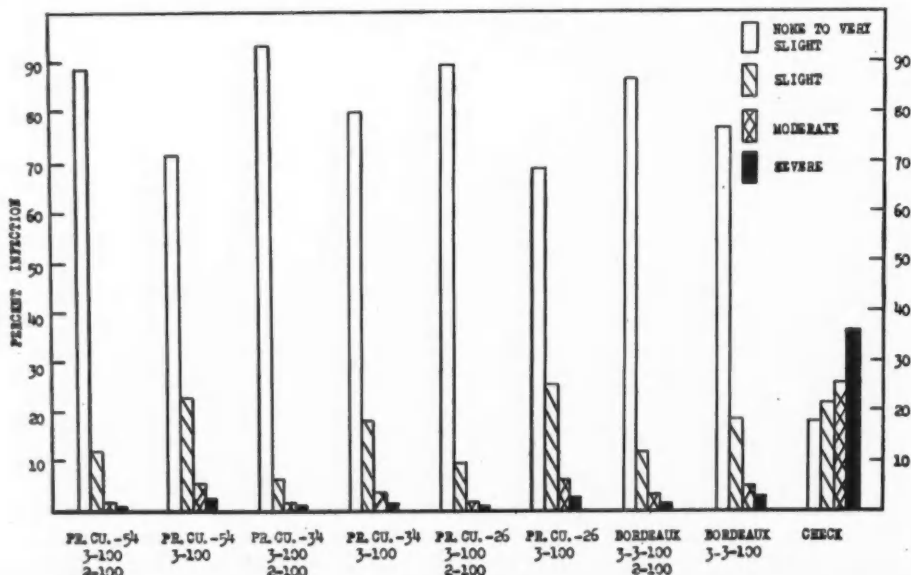


Fig. 3. Comparison of one and two applications of bordeaux mixture and other copper sprays for the control of melanose in one Valencia orange grove in 1939 and 1940.

These have also been tested experimentally and proved satisfactory. In addition there are certain combinations and concentrations of some materials that have been tested and that look promising so far, but are not substantiated with sufficient evidence to be considered in this report.

Melanose varies in intensity from one season to another depending upon weather conditions and the general state of health or vigor of the trees as well as other factors. Furthermore, during a single season its intensity varies from one grove to another, from one part of a grove to another, or even from tree to tree. Consequently, we may expect some inconsistency in the results obtained with a given material in any grove over a period of years or even in different groves in any one year. However, the materials and methods used gave fairly consistent results from one grove to another and from one year to another. In order to give a picture of the performance of the materials under average conditions the results as presented in this report have been averaged from one or more groves and for one or more years.

The melanose control test conducted during 1939 and 1940 consisted primarily of a comparison of bordeaux mixture with 3 copper materials prepared by the Tennessee Copper Company and used in combination with different wettable sulfurs. The tests were made cooperatively with W. L. Thompson of the Citrus Experiment Station, who studied the effect of the sprays on the development of scale and mite insects. The copper materials included tri-basic copper sulfate (54 percent metallic copper) and Copofilm (34 percent metallic copper), which are still on the market as melanose spray materials, and Copotex (26 percent metallic copper), which in Florida is now used primarily as a spray material for vegetable crops. An average of the results obtained with these materials in comparison with bordeaux mixture in 3 different grapefruit groves during 1939 and 1940 is presented in Figure 1. All of the materials considered here were employed at a 3-100 concentration and in combination with a high-grade wettable sulfur at 6-100. From these results it is to be noted that all of the materials gave about the same control of melanose, and the control obtained was highly significant in considering the intensity of infection in the check plots.

In accordance with some of the

older spray recommendations for the control of melanose, it was not uncommon for growers to employ two post-bloom applications of a 6-6-100 bordeaux mixture. However, this was later reduced to one ap-

plication of the 6-6-100 formula and even later to one application of a 3-3-100 bordeaux mixture or its fungicidal equivalent in some proprietary copper. The general recommendation of the latter formula for

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the control of melanose was based primarily on results obtained by Ruehle and Kuntz (1), who also found that single applications of the 6-6-100 formula or 2 applications of the 3-3-100 formula were more desirable under certain conditions.

In following up this phase of the

materials were included in these tests, namely, Yellow Cuprous Oxide (83 percent metallic copper) and Brown Cupric Oxide (75 percent metallic copper) at 1-100 concentrations in order to approximate the copper content of a 3-3-100 bordeaux mixture. As shown in Figure

in the check plot.

The question of one and two post-bloom sprays was further investigated by comparing one and two applications of bordeaux mixture and 3 proprietary materials in a Valencia orange grove during 1939 and 1940. In these tests the single

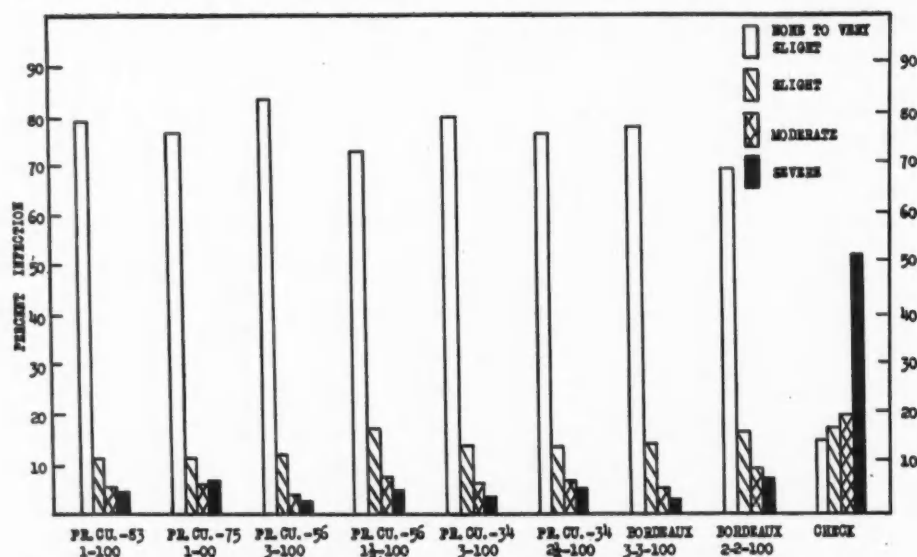


Fig. 4. Comparison of bordeaux mixture with other copper sprays for the control of melanose in three grapefruit groves in 1941.

work one and two post-bloom sprays with some of the newer compounds were compared during 1939 and 1940. In these tests the single applications and the first one of the two post-bloom applications were employed approximately 3 weeks after maximum petal fall and the second application about 3 or 4 weeks later. An average of the results obtained with one and two post-bloom applications of bordeaux mixture and 4 proprietary materials in 2 grapefruit groves during 1940 is presented in Figure 2. In addition to the 34 and 26 percent materials mentioned previously 2 new

2, 2 applications of the 4 proprietary materials and 2-2-100 bordeaux mixture gave about the same control and an average of about 15 percent more first-grade fruit than did the single applications of the same materials. The single applications of the materials used also gave about the same control with the exception of the 3-3-100 bordeaux mixture which gave slightly less control than it did in any of the other tests. In any event the control obtained with one post-bloom application of all materials was very outstanding when compared with the amount of third-grade fruit obtained

applications and the first of the two post-bloom sprays were used at a 3-100 concentration in comparison with a 3-3-100 bordeaux mixture, while the second application of all materials was employed at 2-100 concentrations. An average of the results of the 2 tests is shown in Figure 3, and these results are generally comparable with those obtained on grapefruit, as shown in Figure 2. Two applications of all of the materials employed gave approximately the same control and in some cases considerably better control than a single application. The control obtained with one post-bloom application of all materials was as good or better than the average commercial control. The significance of the difference in the control obtained with 1 and 2 post-bloom sprays is questionable, but in a year of average melanose infection the second application is not warranted. Moreover, on the basis of the results of these tests and results obtained by Ruehle and Kuntz (1) the double application should be made only where infection is expected to be very severe, such as usually occurs in old unpruned grapefruit trees, or in groves where drouth or other unfavorable growth

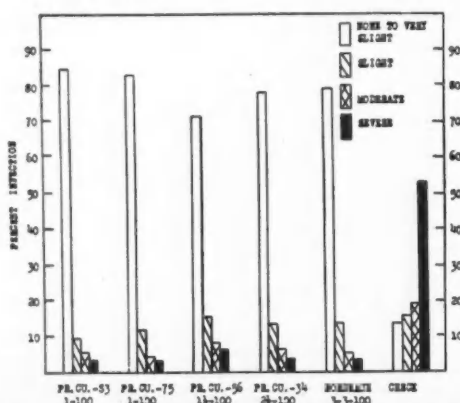


Fig. 5. Comparison of bordeaux mixture with other copper sprays for the control of melanose in four grapefruit groves in 1940, 1941 and 1942.

(Continued on page 14)

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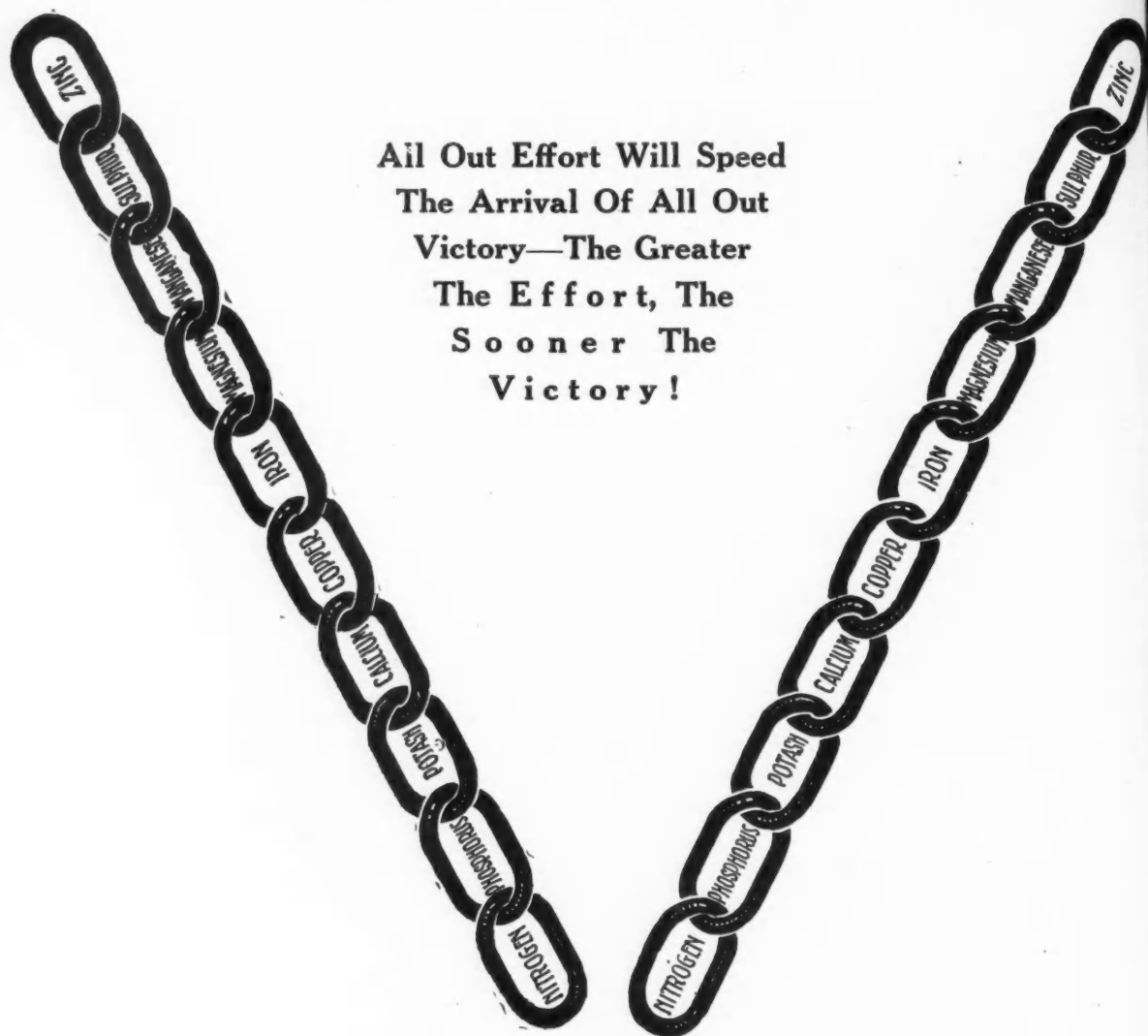
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Green-Spotting In Relation To Time Of Day That Early Oranges Are Picked^{1/}

Presented At Meeting of Florida State Horticultural Society

(Concluded from last issue)

Transpiration* in a tree is practically nil at night. It has been shown that the rate of this process is low in the early morning hours, increases rapidly with the height of the sun above the horizon, attains its maximum in the early afternoon and again falls rapidly

Now let us reiterate the theory of green-spotting. The orange tree has been storing up water during the night, gradually increasing the turgor of the fruits. Fruits in this condition are much like over-inflated automobile tires. Rough handling produces quite a jar, especially when oranges are dropped against each

and slight jars are not so serious.

The presence of moisture on the trees may be an accessory factor. A thin film of moisture on the orange may trap the oil and permit it to act on the rind for a longer period. Furthermore a foggy or cloudy morning would tend to maintain the turgor of the tree for a longer period because of the reduced transpiration rate. One of the most important factors in transpiration of trees is light intensity. Another factor that is important is the relative humidity. So we would expect the oranges to retain their early morning turgor longer on a cloudy or rainy day than on a bright, sunny one.

That moisture alone was not the dominant factor is illustrated by the following: Sometimes at sunrise the trees were wet with dew and at others a gentle breeze was blowing and they were dry. Green-spotting was produced in both cases. Once a shower occurred during the sunset picking. This showed no effect on incidence of spotting.

It is realized that growers are not in the habit of picking oranges

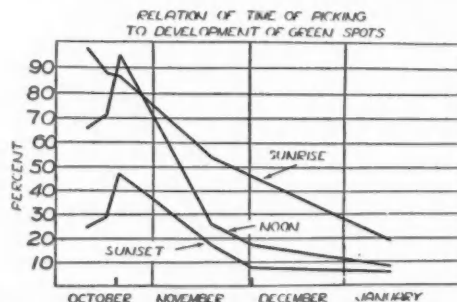


Figure 2. Relation of season and time of day when harvested to development of green-spotting of Parson Brown oranges, 1942.

with the setting of the sun.

Taylor and Furr, reporting on investigations in California, state: "When the moisture content of the leaves is reduced by rapid transpiration or by a restriction in the water supply from the soil, the suction force in the leaves rises. Water is then withdrawn from the fruit to the leaves and this loss of water causes the fruit to shrink. This shrinkage is easily measured." These same investigators substantiate this statement with data showing that the circumference of Valencia oranges is greatest at 6:00 a. m. and least at 2:00 p. m.

other in the picking bag or when poured out of picking bags into the field boxes. The jar ruptures some of the oil vesicles. They are also ruptured by pressure exerted in grasping the fruit in picking. The

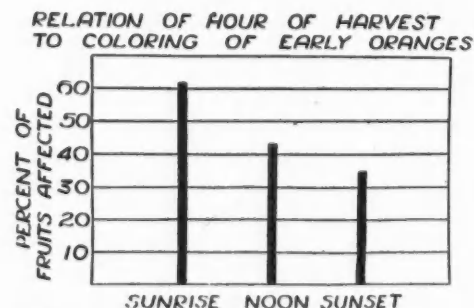


Figure 3. Relation of picking at sunrise, noon and sunset to development of spotting in early oranges. Average of 19 experiments with three varieties in two seasons. (42% of these collections were made prior to commercial picking.)

1/ By Erston V. Miller, Physiologist, and J. R. Winston, Senior Horticulturist, Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, U. S. Department of Agriculture.

* Transpiration is defined as "the loss of water in the form of vapor from the stem and leaves of the living plant."

escaped oil fixes the chlorophyll or green pigment with which it comes in contact.

As the day progresses the tree transpires more rapidly and the fruits become progressively more flaccid

at sunrise. The results of these sunrise picks are reported primarily for the purpose of illustrating our point. However, with war times being put into effect, our daily habits are be-

(Continued on page 18)

Higher Prices For Growers; Lower Cost to Consumers

Consumer prices for oranges, grapefruit and lemons will be reduced by from 10 to 15 percent under a new price schedule recently announced by OPA and approved by Stabilization Director Vinson.

At the same time, prices received by growers will be increased over last season's levels by use of the roll-back method advocated by the War Food Administration. This method was accepted by Vinson in preference to a government purchase and sale subsidy program favored by OPA.

Sales of fruit will now be on a per-pound basis rather than on the traditional per-dozen basis.

OPA said that oranges on a national average will sell at retail for 9.5 cents per pound; grapefruit for eight cents a pound; lemons for 13.5 cents a pound. This is a reduction of 1.5 cents a pound under last season's prices for oranges; one cent a pound on grapefruit, and 1.5 cents a pound for lemons.

The ceilings to be provided in forthcoming regulations will reflect the following maximum prices per box to the grower for fruit on the trees:

Florida and Texas oranges — \$2.41 new ceiling, \$2.13 ceiling last year.

California and Arizona oranges — \$2.85 new ceiling, \$2.63 ceiling last year.

Florida and Texas grapefruit — \$1.64 new ceiling, \$1.54 ceiling last year.

California and Arizona grapefruit — \$1.95 new ceiling, \$1.67 ceiling last year.

All lemons, \$3.28 new ceiling, \$3.03 ceiling last year.

Box Allowance

New retail ceilings will be based on the following per box allowance for handling from the grove to retail store.

Oranges — pick, pack and sell, \$1.20; freight and refrigeration, \$1.05; wholesalers mark-up, \$0.75; retailer's mark-up, \$1.75.

Grapefruit — pick, pack and sell, \$1.05; freight and refrigeration, \$1.00; wholesaler's mark-up, \$0.65;

(Continued on page 15)

THE CHINESE

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A COMPARISON OF SOME COPPER FUNGICIDES IN CONTROLLING CITRUS MELANOSE

(Continued from page 8)

conditions have caused a delayed bloom or a succession of light bloom so that a large percentage of the fruit is still susceptible to infection when the summer rains begin.

On the basis of the results of the foregoing tests and results obtained by Ruehle and Kuntz (1), the general recommendation of a 3-3-100 bordeaux mixture or its fungicidal equivalent in some form of neutral or basic copper is followed almost universally for the control of melanose on Florida citrus. However, the increasing number of proprietary materials appearing on the market

of the final spray mixture. As a matter of comparison the 56 and 34 percent materials were also employed at a 3-100 concentration.

As shown from an average of the results of these tests in 3 grapefruit groves during 1941 in Figure 4, the control was comparable with all materials employed at concentrations approximating a 3-3-100 bordeaux mixture. The control obtained with the 3-100 concentrations of the 56 and 34 percent materials was slightly better than that with the lower concentrations of all materials but the difference is not significant. From these and other results the inference is that about 3/4 pound of metallic copper per 100 gallons will give good melanose control under average conditions and

deaux mixture in 3 grapefruit groves during 1940-41-42 is presented in Figure 5 and in one Valencia orange grove for the same period in Figure 6. In general the average control obtained with all materials at the concentrations employed was fairly comparable in both the orange and grapefruit tests. The average control with the 83 and 75 percent materials at 1-100 on both oranges and grapefruit was slightly better than that obtained with the 56 and 34 percent materials at their respective concentrations, but this difference in control is probably not significant. In this instance the slightly better control obtained with the first 2 materials may be attributed to certain characteristics of these materials, since they are of smaller particle size and appear to be somewhat more tenacious than the latter 2 materials. Although the relationship between particle size and the fungicidal value and tenacity has not been definitely established, much of the current fungicidal research indicates that fungicidal value and tenacity is increased as the size of the particles is decreased.

The results of this line of investigation on citrus and current fungicidal research in general indicates to some extent that certain copper materials can be employed on the basis of equivalent metallic copper. This does not imply, however, that all of the materials on the market at present nor all of those to be developed in the future can be employed on this basis. This is exemplified to a certain extent in the present investigation where the 54, 34, and 26 percent materials gave approximately the same control at 3-100 concentrations. Since these materials were employed at the same concentration, we might reasonably expect some difference in degree of control, at least between the 54 and 34 percent materials. However, the fact that the actual chemical combination in all three of these materials is essentially the same will partially explain why the comparable results were obtained. Also, the 54 percent material may contain more copper per unit or particle than the 34 and 26 percent materials, but if they are all of approximately the same particle size the distribution of the particles in the final spray mixtures would be very similar. Thus, in considering the variation in the chemical and physical characteristics of different proprietary copper compounds we

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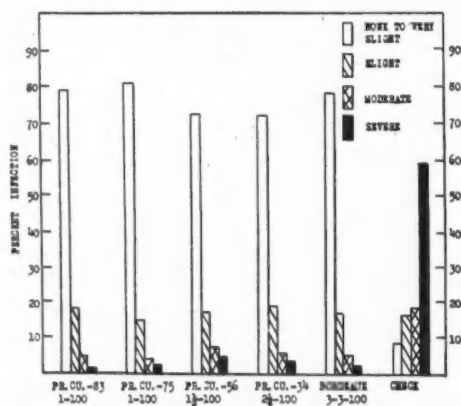


Fig. 6. Comparison of bordeaux mixture with other copper sprays for the control of melanose in one Valencia orange grove in 1940, 1941 and 1942.

has raised many inquiries from manufacturers and growers as to what concentration of these materials is equivalent to a 3-3-100 bordeaux mixture for melanose control. This has naturally led to considerable experimental and commercial investigation along this line in which many factors were confronted since some of the materials varied in copper content, particle size, tenacity, and cost. Some of the first experimental tests conducted along this line on citrus included 4 proprietary copper materials employed at different concentrations in comparison with 3-3-100 and 2-2-100 bordeaux mixtures. In addition to the 83, 73, and 34 percent materials employed in previous tests, a relatively new compound chemically known as copper oxychloride sulfate (56 percent metallic copper) was included in these tests. These materials were employed in concentrations to approximate a 3-3-100 bordeaux mixture or approximately 3/4 pound of metallic copper per 100 gallons

that the slightly better control obtained with additional material may not justify the additional cost. On the other hand, if the amount of copper is reduced below 3/4 pound per 100 gallon, the control will be reduced accordingly and the optimum control with a given material will not be obtained, as indicated by the 2-2-100 bordeaux mixture in Figure 4. In this instance the control obtained was probably on a par with the average commercial control, but for commercial control of melanose under average conditions it is not advisable to employ less than the 3-3-100 formula.

In accordance with the current idea of using copper spray materials on the basis of equivalent metallic copper, the 4 proprietary materials employed in the previous test were compared at concentrations approximating a 3-3-100 bordeaux mixture on grapefruit and oranges over a 3-year period. An average of the results obtained with these materials in comparison with bor-

HIGHER PRICES FOR GROWERS; LOWER COST TO CONSUMERS

(Continued from page 13)

retailer's mark-up, \$1.35.

Lemons — pick, pack and sell, \$2.10; freight and refrigeration, \$1.35; wholesaler's mark-up, \$0.90; retailer's mark-up, \$2.50.

The new regulation will replace the method used last season where the maximum mark-up was expressed as a percentage over cost, and will thus prevent the pyramiding of margins. At the same time the new margins will be held more nearly in line with those customarily prevailing before price control.

Grower prices provide a 50 cent "cushion" as an allowance for grade and size. While dealers may still sell by the dozen, they must be sure that their price per dozen does not exceed the established per-pound price.

In accepting the method proposed, Stabilizer Vinson said he wanted the public to know that fair returns to the grower will be obtained under the basic point pricing system and that exact retail prices for each area will be announced by district OPA offices.

A COMPARISON OF SOME COPPER FUNGICIDES IN CONTROLLING CITRUS MELANOSE

(Continued from page 14)

can realize why their employment on the bases of equivalent metallic copper necessarily has its limitations.

It has been generally accepted that the fungicidal value of copper compounds is related to their solubility, but perhaps it may be more closely related to the amount of available copper produced by the material in solution. The fact remains, however, that copper spray materials vary widely in their fungicidal value per unit of copper, and such factors as available copper, particle size, tenacity, and perhaps others must be further investigated before definite conclusions can be formulated. In the meantime, the field performance of fungicides as included in this report can be continued, which after all is the final test of any protective fungicide.

Literature Cited

1. Ruehle, G. D., and Wm. A. Kuntz. Melanose of citrus and its commercial control. Florida Agric. Exp. Sta. Bull. 349: 1-54. 1940.

Speaking of War Plants..



Ask anyone about Florida's war plants and they will at once speak of shipyards, and other similar industries. They overlook the fact that the tomatoes, celery, beans, potatoes and the many other Florida vegetables are vital war plants, too. For today — guarding the health and strength of fighting men and civilian population — food fights.

And Florida's winter vegetables jump in the breach at a time when most farming states are producing nothing. Florida citrus, too, fresh or canned, is served at army mess tables and in nutrition-conscious homes.

Now, of all times, be certain your soil gets the right kind of plant foods. Your Gulf field man, backed by Gulf's 40 years of experience in analyzing the needs of Florida soils, will help you get a record crop from every row. He'll help you keep your "war plants" producing at full capacity.

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The Gulf Fertilizer Company

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Department

COMPILED BY THE LYONS FERTILIZER CO.

Reports of Lyons Field Men . . .

NORTH CENTRAL FLORIDA V. E. (Val) Bourland

The fall application of fertilizer is well under way at the present time. With all growers conscious of the value and economy of the entire required group of secondaries we are using these materials in ample amounts to take care of the requirements of the tree. Fruit is being sold at very good prices and while there is a general complaint that "Mrs. Jones" the housewife in the north is being "taken for a ride," we nevertheless are in position to make real money on our fruit sales. We hope that this situation will soon be remedied. Vegetable crops, mostly eggplant and pepper are beginning to move to market from this section. There is a considerable acreage of cabbage already planted and an additional acreage is now being set. Other vegetable crops are still being planted.

POLK & HIGHLANDS COUNTIES

J. M. (Jim) Sample

Cool weather is hastening the maturity and bringing out the color on citrus fruit but dry weather during the latter part of October and to the middle of November has become a serious problem. Considerable trouble has been experienced in getting fruit to pass the required maturity tests, especially grapefruit. In part this is due to the long blooming period last spring of grapefruit and the later bloom, of course, is not as mature as the early bloom. The fruit movement is gaining momentum, with Hamlin and Parson Brown oranges being rapidly cleaned up. Tangerines are just beginning to move and grapefruit is being cleaned up as fast as it passes the tests. The fall fertilizer application is just about over and groves are being laid by for the winter.

SOUTHWEST FLORIDA F. W. (Felton) Scott

Due to the fact that most organizations have found it necessary to use their limited field labor in assisting in harvesting early fruit crops, we have been

somewhat delayed with the fall application of fertilizer. However, this operation is going forward as rapidly as is possible and will be through by the middle of December. Fruit is moving with increasing volume each week from this section. Prices have been good and everyone seems to be in a happy frame of mind. Vegetable crops are moving to market in volume from the Ruskin, Manatee and Hardee County sections. These movements include all general varieties of vegetable crops produced in this territory during the fall season. Prices have been good and we haven't had too much trouble with the labor situation to date.

HILLSBOROUGH & PINELAS COUNTIES

C. S. (Charlie) Little

Speaking generally of this section we can report that most groves have received their fall application of fertilizer, this has been thoroughly worked into the soil and the properties are in fine shape to go through the winter. While we have a light crop of fruit on some groves in Pinellas County and they are expected to be in fine condition, it is also true that those groves with good crops are also in good shape and barring some catastrophe we should be in shape to set a very fine crop of fruit in the spring. Both oranges and grapefruit that will pass maturity tests are being shipped to market at good prices. Furthermore there is quite a bit of activity among the buyers in later varieties and some of this fruit is being sold at good prices.

WEST CENTRAL FLORIDA

E. A. (Mac) McCartney

The interest that growers are taking in getting their groves in tip-top shape throughout this section is very pleasing to note. It is with very few exceptions that grove owners are not going forward with a program that is certainly going to result in not only a better condition of the tree but will mean an increased production of better quality fruit. All of our fertilizer tonnage will carry ample amounts of secondary

Lake County

Lake County, one of the most important agricultural counties in the state is going all-out in its effort to produce more food products to help in this time of war when it becomes the duty of every individual to carry out his part in producing for a complete victory over our enemies. Mr. R. E. Norris, the hard working and capable county agricultural agent in Lake County, with his office in Tavares, reports that every grower in the County is ready and willing to carry his share of the responsibility of seeing that the agricultural wealth of this leading county is utilized to the fullest in assisting in the war effort.

Lake County is located midway between the Atlantic ocean and the Gulf of Mexico in the great hill and lake region of Central Florida. There are more than 1400 lakes strategically located throughout the county to furnish cold protection and water for irrigation to the more than 41,000 acres of citrus groves that produce annually in excess of six and one-half million boxes of oranges, grapefruit and tangerines. These fruits are of the finest quality and are shipped to all parts of the nation where they are consumed by an appreciative buying public.

Watermelons for the early spring market are produced on from three to four thousand acres annually. This crop is of major importance in Lake County, ranking second only as a cash crop to citrus fruits. Lake County (Concluded on bottom next page)

plant foods and this will be followed in the spring with a spray program that will be complete in all respects as far as nutrition and pest control is concerned. Vegetable crops are beginning to move to market in this territory, and while the acreage is not as large as we at first anticipated it is encouraging to note that yields are good and the quality is better. This of course means that with good quality the grading out of culls is much less.

Lake County...



This view of a young grove in Lake County shows a portion of the large citrus planting and is a fair example of the beautiful rolling land that is to be found in the County.



This picture shows the growing livestock industry in Lake County. Pork production is reaching an important point in this section and will become of more importance.

LAKE COUNTY

(Continued from preceding page)

is the first ranking county in Florida as far as watermelon production is concerned and it is from this section that some of the finest melons are shipped to northern markets in the early summer.

Sea Island cotton is an industry which has gained in import-

ance in Lake County in recent years. However, due to the high labor cost at the present time and the low ceiling price on this commodity the acreage has been reduced since we have been at war. It is certainly reasonable to believe that this situation will be remedied when the war is over and cotton will return on a more important basis than ever before.

Livestock production is taking an important place in the county

at the present time, and it is expected that beef and pork production will be rapidly increased in the future. There are many growers at the present time that own sufficient numbers of both cattle and hogs to call their production a real business.

The production of vegetable crops are also of importance in Lake County with cabbage, cucumbers, lettuce, pepper, sweet potatoes as the leading crops.

Restrictions Removed On Shipments Texas Grapefruit

The War Food Administration has removed all restrictions on shipments of white grapefruit from the Lower Rio Grande Valley of Texas.

The action, effective November 12, terminates Food Distribution Order 85.1 which was placed in effect Oct. 15. FDO 85.1 limited an individual handler's shipments of white grapefruit to not more than 20 percent of the total quantity of grapefruit which he shipped from Cameron, Hidalgo and Willacy counties in Texas during the 1942-43 season.

Food Distribution Administration officials explained that the restrictions were removed because the indicated grapefruit production is large enough to meet both the essential requirements for the fresh and processing markets. FDA officials added, however, that if it becomes necessary in the future to limit the movement of Texas grapefruit into fresh market channels in order to meet essential processing requirements, the restrictions on shipments will be placed into effect again.

GREEN-SPOTTING IN RELATION TO TIME OF DAY THAT EARLY ORANGES ARE HARVESTED (Continued from page 12)

ing pushed up at least an hour nearer sunrise. Furthermore, since the turgidity of oranges is at its peak at 6:00 a. m. and does not reach its maximum till 2:00 p. m., it will be readily seen that if the fruit is picked in the afternoon there is less chance for green-spotting. Here again we must not go to extremes. We can't wait until sunset to pick our fruit. A happy medium would be to wait till afternoon to pick the early varieties. This is of special importance during a season when the fruit matures earlier than usual and is shipped before we have had enough cold nights to remove the bulk of the chlorophyll or green pigments.

KEEP ON

Backing the Attack

WITH WAR BONDS

4 Leaders Named to Important Florida Agricultural Posts

Four long-time associates of the late Dr. Wilmon Newell, all long prominent in the agricultural life of Florida, have been named to fill positions Dr. Newell held at the time of his death October 25.

Dr. John J. Tigert, president of the University of Florida, announced in mid-November that Dr. H. Harold Hume has been named provost for agriculture and will continue as dean of the College of Agriculture. Harold Mowry, associate director of the Experimental Station, has been advanced to the directorship of that research unit of the college, and Arthur P. Spencer, associate director of the Agricultural Extension Service, has been named director of extension. The appointments have been approved by the State Board of Control and State Board of Education.

H. P. Adair of Jacksonville, chairman of the State Plant Board, whose membership is identical with the State Board of Control, announces that Arthur C. Brown, assistant plant commissioner, has been chosen to be plant commissioner. While it has headquarters in Gainesville, the State Plant Board is not connected with the University of Florida.

All four appointments were made effective as of November 1.

Dr. Hume was botanist and horticulturist with the Experiment Station from 1899 to 1904, when he went to North Carolina as State horticulturist and head of the department of horticulture in North Carolina State College. From 1906 to 1931 he was associated in various capacities with a large Florida nursery company. After assisting in the Mediterranean fruit fly campaign of 1929-1930 he returned to the Experiment Station in 1931 as assistant director, which position he held until he became dean of the College of Agriculture in 1938. He is a past president of the Florida State Horticultural Society.

Mr. Mowry has been with the Experiment Station since 1922, first as assistant horticulturist and later as associate horticulturist and horticulturist. He was made assistant director in 1933 and associate director in 1942.

Mr. Spencer came to Florida in 1910 as district agent with the Extension Service and was made assist-

ant director in 1916 and vice-director in 1919. For the past four months he has served as associate director of the organization which supervises the work of county and home demonstration agents throughout the state.

Mr. Brown has been with the State Plant Board since 1915, except for a year in the army during the first World War and three years in private employment from 1925 to 1928. Beginning as canker inspector he has held various other jobs including quarantine inspection and grove inspection work. He has been grove inspector and assistant plant commissioner since July 1, 1940.

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Babson Park, Fla. Soil analyses and consultation on problems and programs. Consultant in Agricultural Processing and By-Products.

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CITRUS TREES — Best quality usual varieties on sour orange or rough lemon stock. Robt. P. Thornton, c/o Clay Hill Nurseries Co., Box 2880, Tampa, Florida.

PLACE ORDER NOW Fall Delivery
Citrus Trees. All Varieties. Paramount Grove Service, Box 843, Lakeland, Fla. 10-6t

NOW BOOKING ORDERS for fall
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ALYCE CLOVER SEED — Ripe and cleaned. Ideal cover and hay crop. Write for information. P. E. Snyder, Box 866, Lakeland, Fla.

